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Serial No. 09/534,814

FEB 11 2002

TECHNOLOGY CENTER R3700

present application was cited as an anticipatory reference against claims 1-3, 5 and 16 of the '503 application. For the convenience of the Examiner handling the present application, Applicant forwards copies of the Office Action and these claims. Independent claims 39 and 45 of the present application, which the Examiner rejects on the basis of new matter include the exact language that is in lines 9-13 of claim 1 of the '503 application. This is the exact language the Examiner in this application says is new matter. Since the Examiner handling the '503 application was able to discern that the structure of the present application inherently included the structure which the Examiner in the present application states is new matter, there is, in fact, no new matter.

An analysis of the structures of Figures 3, 4 and 5 of the present application indicates there is no new matter in the claims of the present application.

Concerning independent claims 39 and 45, in each of Figures 3-5, the interior and peripheral coil portions are respectively indicated by reference numerals 52 and 54 and the intermediate coil portion is the straight line connecting coil portions 52 and 54 to each other. Obviously, when current flows in coil portions 52 and 54 and the line connecting these coil portions together, a magnetic flux is produced. The magnetic flux density produced by the straight line connecting interior coil portion 52 to exterior

coil portion 54 is inherently and obviously less than the magnetic flux density which results from current flowing in the interior and peripheral coil portions. This is because the interior and peripheral coil portions in each of the coils of Figures 3-5 have multiple turns, while only a single line connects the interior and peripheral coil portions. Further, in the embodiment of Figure 4, when switch S1 is open and in the embodiment of Figure 5 when switch S2 is closed to connect coil portion 52 to coil portion 50, the same currents flow in the interior, intermediate and peripheral coil portions. Because (1) the same currents flow in the interior, intermediate and peripheral coil portions of the coils of Figures 4 and 5, and (2) the interior and peripheral coil portions have several turns while the intermediate coil portion has less than one turn, the intermediate coil portion generates less magnetic flux density than the interior or peripheral coil portions.

The interior, intermediate and peripheral coil portions of independent claims 51 and 54 are obviously the same as those of independent claims 39 and 45. Because interior coil portion 52 and exterior coil portion 54 are spirals, they obviously include plural radially and circumferentially extending turns. The straight line forming intermediate coil portion connecting coil portions 52 and 54 is obviously configured so it (a) does not include a complete turn, (b) is substantially less than a

complete turn, and (c) includes a lead connected to ends of the turns of the interior and exterior portions.

It is also obvious that the interior, intermediate and exterior portions of the coil of Figures 3-5 are connected in series when switches 51 and 52 are closed as described *supra* and that the interior and exterior portions respectively include terminals for connection to a source of RF, as dependent claims 41, 47, 52 and 57 require.

It is also obvious that exterior spiral like coil portion 54 includes plural radially and circumferentially extending turns, as claims 42, 48, 53 and 56 define. It is also obvious that the interior and peripheral portions include plural spiral like turns, as claims 43, 44, 49 and 50 require.

Based on the foregoing, the coils of Figures 4 and 5 of the present application inherently include the structures set forth in claims 39-57 and no new matter is included in these claims.

It is well established under United States practice that a structure which inherently includes certain elements need not be described in the specification in the same terms that are employed in the claims. MPEP 2173.05(e) states:

There is no requirement that the words in the claim must match those used in the specification disclosure. Applicants are given a great deal of latitude in how they choose to define their invention so long as the terms and phrases used define the invention with a reasonable degree of clarity and precision.

Applicant also directs the attention of the Examiner to the statement in MPEP 2163.05:

To comply with the written description requirement of 35 U.S.C. 112, para. 1, or to be entitled to an earlier priority date or filing date under 35 U.S.C. 119, 120, or 365(c), each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure. (Emphasis added.)

In the same vein, MPEP 2163.06 states:

...information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter.

The rejection based on new matter is thus incorrect and must be withdrawn.

Applicant traverses the rejection of claims 39-56 under 35 USC 112, paragraph 1, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor, at the time the application was filed, had possession of the claimed invention. This ground of rejection is traversed for the same reasons discussed above with regard to the rejection of the same claims under 35 USC 251.

Applicant traverses the rejection of 39-56 as being unpatentable over either Yoshida et al., U.S. Patent 5,690,781 or Hama et al., U.S. Patent 5,716,451. Applicant need not deal with this rejection on a substantive basis because his July 27, 1995,

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effective filing date predates the September 13, 1995, Yoshida et al. filing date and the August 14, 1996, Hama et al. filing date.

In response to the objection under 37 CFR 1.172(a), Applicant assigned his entire right, title and interest in the invention as indicated by an assignment (copy enclosed) of the original patent at Reel 007698, Frame 0478. At the time the application was filed, Applicant ordered an Abstract of Title and authorized payment of the \$25.00 fee. On March 22, 2000, Attorney for Applicant filed an Offer to Surrender (copy enclosed) and a statement (copy enclosed) from an officer of Applicant's assignee for the consent of Applicant's assignee for filing of the present reissue application.

Applicant submits herewith a Declaration that complies with 37 CFR 1.67(a).

Applicant traverses the rejection of claims 39-56 under 35 USC 251 as being an improper recapture of broadened claimed subject matter surrendered in the application upon which the patent reissue is based. Under the Doctrine of Improper Recapture, the Examiner must show that the Applicant of a reissue application was previously attempting to claim the same or substantially the same subject matter as set forth in the claims of the reissue application. There was never an attempt in the prior application to claim a coil having interior, intermediate and peripheral portions as defined in any of claims 39-56 and

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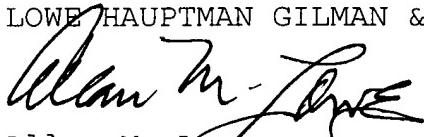
discussed previously. Consequently, the Examiner's position that amending the claims of the original application to require currents of different magnitude to flow through the individual coil segments is irrelevant to claims 36-56 of the present application.

In view of the foregoing remarks, an indication of the allowability of all claims pending in the application is in order.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Date: February 5, 2002



UNITED STATES DEPARTMENT OF COMMERCE

Patent and Trademark Office

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Washington, D.C. 20231

AM 2

AD

APPLICATION NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/931,503	09/16/97	HOLLAND	J 2328-032

MM42/1115

EXAMINER  
BETTENDURF, J

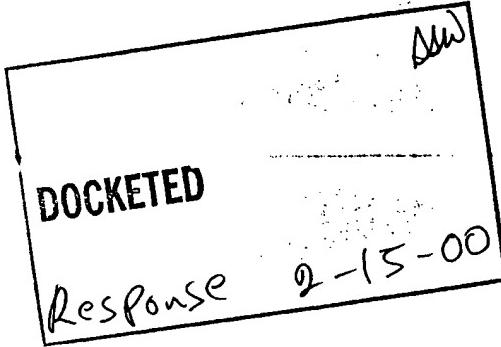
LOWE HAUPTMAN GOPEIN GILMAN & BERNER, LLP  
1700 DIAGONAL ROAD, SUITE 310  
ALEXANDRIA VA 22314

ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 11/15/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



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NOV 16 1999

LOWE, Hauptman, Gopstein & Berner

*Released  
Case*

*Office Action Summary*

Application No. 08/931,503	Applicant(s) <b>HOLLAND et al.</b>
Examiner Justin P. Bettendorf	Group Art Unit 2817

FEB 07 2002

Responsive to communication(s) filed on Jun 29, 1999

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

- Claim(s) 1-33 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 Claim(s) \_\_\_\_\_ is/are allowed.  
 Claim(s) 1-33 is/are rejected.  
 Claim(s) \_\_\_\_\_ is/are objected to.  
 Claims \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.  
 The drawing(s) filed on Sep 16, 1997 is/are objected to by the Examiner.  
 The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.  
 The specification is objected to by the Examiner.  
 The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).  
 All  Some\*  None of the CERTIFIED copies of the priority documents have been  
 received.  
 received in Application No. (Series Code/Serial Number) \_\_\_\_\_.  
 received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- Notice of References Cited, PTO-892  
 Information Disclosure Statement(s), PTO-1449, Paper No(s). 4  
 Interview Summary, PTO-413  
 Notice of Draftsperson's Patent Drawing Review, PTO-948  
 Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2817

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because figure 2 shows "104" pointing to the same winding as "102" which appears to contradict what is stated in the specification on page 11, line 1. Correction is required.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "110" and "140" do not appear to be shown in figure 2 (see page 12). Correction is required.

The applicant is required to provide a copy of the drawings with proposed drawing changes marked in red ink.

### ***Specification***

3. The disclosure is objected to because of the following informalities: On page 12, line 1 presently reads as "coil 110" which the examiner suggests should be rewritten as --coil 100--, and line 2 presently reads as "112" which the examiner suggests should be rewritten --110--. Also, on page 12, line 31 reads as "120" which the examiner suggests should be changed --130--. On page 15, line 7 presently reads as "portion 10" which the examiner suggests should be rewritten --110-. On page 30, line 5 presently reads as "elements 310 and 312" which the examiner suggests should be rewritten as --elements 312 and 314--. Appropriate correction is required.

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*Claim Objections*

4. The numbering of claims is not accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

*Misnumbered claims 18-34 have been renumbered 17-33.*

*Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 each recite "similar" which renders the claims indefinite because it is not clear what is intended to be encompassed by this term - see MPEP 2173.05(b)C.

Claim 15 recites "the windings" which appears to lack an antecedent basis.

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Renumbered claim 17 (i.e. submitted as claim 18) recites "a pair of adjacent conductor segments ... the adjacent conductor segments forming corners" which appears to be contradicted by "said adjacent conductor segments extending along a first substantially straight line" (i.e. how can the adjacent segments form both a corner and be in a straight line?). Therefore, the claim is rendered vague and indefinite. Claims 26 and 32 each recite "the additional structure" which lacks an antecedent basis.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1-6, 8-13, and 16 (insofar as can be understood) are rejected under 35 U.S.C. 102(e) as being anticipated by Hama et al. U.S. Patent 5,716,451.

*jm* The Hama et al. reference discloses in figure 13 shows a vacuum processor 200 for treating a workpiece L which includes: a chamber 202; a gas inlet 242; and parallel winding coil 214, 216, 212a, 212b with diametrically opposed terminals shown in figure 14. Figure 14 shows a matching circuit 220 and that the coils 214 and 216 have tighter turns (see col. 14, lines 58-68) which increases the magnetic flux density in the center and the peripheral turns 212 which generates a flux greater than the flux generated by the lengths in the intermediate portions

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formed outside of 208a (see ER in figure 16). It should be noted that the claims have been rejected assuming that "similar" means "the same".

9. Claims 1-3, 5, and 16 (insofar as can be understood) are rejected under 35 U.S.C. 102(e) as being anticipated by Gates U.S. Patent 5,731,565.

The Gates reference discloses in figure 6: a vacuum processor with a chamber 10 and workpiece W; a gas inlet as shown; a matching network (see col. 5, line 1). Figure 5 shows a coil 50 with outer peripheral winding 54 and inner central winding 52 with an intermediate portion therebetween. The current inherently develops a magnetic flux density coupled to the plasma greater by the windings 52 and 54 than the connecting portion because there are more windings at the central and peripheral portions in order to yield a uniform plasma (see col. 3, lines 49-52).

*Claim Rejections - 35 USC § 103*

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to

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the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hama et al.

As noted above, the Hama et al. reference discloses the connections near the corners (see figure 14) but not "at the corners". Nevertheless, such a modification would have been considered a mere design consideration and therefore would have been considered obvious.

12. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gates in view of Yoshida et al. U.S. Patent 5,690,781.

The Gates reference, as noted above, discloses a plasma processor with an inner coil portion and outer coil portion but does not show two parallel coils.

The Yoshida et al. reference shows in figure 8A a coil for a similar device with parallel coils and diametrically opposed terminations. The parallel coils provides the advantageous benefits of: shorter length of coil for the same plasma density; decrease in electrical resistance; and reduction of unwanted sputtering (col. 5, lines 24-41).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted an art-recognized equivalent parallel coil in place of the coil in the device of Gates as taught by Yoshida et al. because such a substitution would have

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provided advantageous benefits such as a reduction in unwanted sputtering as suggested by Yoshida et al. thereby suggesting the obvious modification.

With respect to claims 7 and 11-13, it would have been obvious to have formed the coils as rectangular based on the desired substrate to be processed such as a display panel with the terminations formed at the corners which would have been considered a mere design consideration.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Bettendorf whose telephone number is (703) 308-2780 and FAX number is (703) 308-7722.

Justin P. Bettendorf  
Patent Examiner  
Art Unit 2817

jb  
November 4, 1999

## INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(PTO-1449)

**ATTY. DOCKET NO.**  
**2328-032**

SERIAL NO.  
08/931.503

**APPLICANT**

**FILING DATE**  
**September 16, 1997**

GROU

7817

## **U.S. PATENT DOCUMENTS**

HUGO W.

卷之二 (129)

Grupe 07/10

## **FOREIGN PATENT DOCUMENTS**

EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						Yes	No
<i>JS</i>	EP 0 759 632 A1	Feb 26 1997	Europe			X	
<i>JS</i>	WO 96/17208	June 13 1996	World			X	

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**

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'AUG 25 1999

**EXAMINER**

**DATE CONSIDERED**

11-4-29

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EXAMINER: Initial if reference considered; whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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TECHNOLOGY CENTER R3700

<b><i>Notice of References Cited</i></b>			Application No. 08/931,503	Applicant(s) <b>HOLLAND et al.</b>		
			Examiner Justin P. Bettendorf	Group Art Unit 2817	Page 1 of 1	
<b>U.S. PATENT DOCUMENTS</b>						
	DOCUMENT NO.	DATE	NAME		CLASS	SUBCLASS
A	5,731,565	03/1998	GATES		315	111.51 X
B	5,716,451	02/1998	HAMA et al.		118	723I
C	5,690,781	11/1997	YOSHIDA et al.		315	111.51 X
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<b>FOREIGN PATENT DOCUMENTS</b>						
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<b>NON-PATENT DOCUMENTS</b>						
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**Attachment for PTO-948 (Rev. 03/01, or earlier)**  
**6/18/01**

**The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.**

**INFORMATION ON HOW TO EFFECT DRAWING CHANGES**

**1. Correction of Informalities -- 37 CFR 1.85**

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTO-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

**2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.**

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

**Timing of Corrections**

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.